

**CSP ELECTRONICS LLC  
BASIC LIST**

<b>Parameter monitored</b>	<b>Input type</b>	<b>Display</b>	<b>Check List</b>
Engine Coolant Temperature	Temp Sensor	Temp in Degrees F	
Engine Oil Pressure	Pressure Sensor	Pressure in PSI	
Engine Speed	Speed Sensor	Speed in RPM	
Engine Crankcase Press Sw	Pressure switch	Normal/High	
Coolant level	Level switch	Hi/lo	
Exhaust water temp	Temp switch	Hi/lo	
Gear oil temperature	Temp Sensor	Temp in Degrees F	
Gear oil pressure	Pressure Sensor	Pressure in PSI	
Battery Voltage	Analog voltage input	Volts	
IMT Quadrant 1	Temp Sensor	Temp in Degrees F	
IMT Quadrant 2	Temp Sensor	Temp in Degrees F	
IMT Quadrant 3	Temp Sensor	Temp in Degrees F	
IMT Quadrant 4	Temp Sensor	Temp in Degrees F	
Fuel Rail Pressure	Pressure Sensor	Pressure in PSI	
Shaft Speed	Speed Sensor	Speed in RPM	
Control Power	Analog voltage input	Volts DC	
Torque	Normalized to prop	% Torque	
Hours to Oil Change	Based on fueling	Full fueling Hours	
Engine Oil Press Post Filter	Pressure Sensor	Pressure in PSI	
Air Filter restriction	Pressure sensor	Press in inches H2O	
Turbine outlet temperature	Thermocouple	Temp in Degrees F	
Cylinder temperature	Thermocouple	Temp in Degrees F	
Cylinder fueling balance	Calculated	Temp deviation in F	
Crankcase Pressure	Future	Press in inches H2O	
Oil Filter Restriction	Delta P Calculated	Pressure in PSI	
Fuel Filter Restriction	Delta P Calculated	Pressure in PSI	
Low Air Pressure	Pressure Switch	High/Normal	
Low Air Pressure	Pressure sensor	Pressure in PSI	
Gear Ratio	Dual speed sensors	Gear ratio	
Throttle lever	Potentiometer	% Throttle/direction	
J1587 Engine control param.	J1587 data link	Various parameters	
J1939 Engine gateway	J1939 data link	Various parameters	
<b>Monitoring Features available:</b>			<b>Check List</b>
Display of all parameters			
Warning set points with verbal alarms			
Log file for all data recorded			
Email interface for ship to shore data transmission			
Fuel usage collective and at a glance			

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<b>Power train protection features:</b>			<b>Check List</b>
Low gear oil pressure derate			
High gear oil temperature derate			
Gearbox axial loading ( <b>consult with CSP for complete information</b> )			
Gearbox lube pump system (for slip clutch and DP applications)			
High IMT derate/shutdown ( <b>Indicate D or S for derate or shutdown*</b> )			
High torque value derate			
High Crankcase pressure derate/shutdown			
Low engine oil pressure derate/shutdown			
High engine coolant temperature derate/shutdown			
Existing control system input (voltage, 4-20 mA, frequency, etc)			
<b>Control Features:</b>			<b>Check List</b>
Single lever Engine throttle and gear shift			
Single lever Engine throttle and gear shift with shaft speed control(slip)			
Engine only mode from lever (no gear engagement)			
Engine only mode from knob (no gear, limited top engine speed)			
Fire pump mode from lever (no gear, limited top engine speed)			
Sync (All engines controlled from one lever)			
Automatic overload throttle back (Continuously adjusted by computer)			
DP interface			
Joystick interface			
Engine room emergency station control			
Single station			
Multiple stations (write number or stations in check box)			
Engine/Gear voltage supply (12 or 24 volts DC)			
Electrical or Mechanical fuel shut down			
<b>Additional Features Available:</b>			<b>Check List</b>
Control, Protection, Monitors, Alarms and Data collection for;			
Oil Pumps, Fuel Pumps, Turbos, Water Strainers and more!			
<b>NOTE: Some features only available with CSP engine/gear controls</b>			